

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow. Claims 1-15 and 20-24 were pending in this application and have been rejected. With this Reply and Amendment, Claims 1 and 20 have been amended, and no new matter has been added. Therefore, Claims 1-15 and 20-24 will remain pending in this application upon entry of this Reply and Amendment.

Claim Rejections – 35 U.S.C. § 103

In Section 4 of the Office Action, the Examiner rejected Claims 1-15 and 20-24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,558,950 titled “Optimized Cell Pack for Large Sealed Nickel-Metal Hydride Batteries” to Ovshinsky et al. (“Ovshinsky”) in view of GB Patent No. GB2026761A titled “Accumulator Terminal Assemblies” to Schafer (“Schafer”) and U.S. Patent Application No. 2002/0070215 titled “Collapsible Container with Closed, Multi-Paneled Sidewalls” to Walsh et al. (“Walsh”). Applicants respectfully traverse this rejection.

Claim 1 is in independent form and recites a “rechargeable battery” comprising, in combination with other elements, a “supporting surface” that is “transmission laser-welded to the housing wall at the interface ... wherein one of the supporting surface and the housing wall is at least partially transparent for a laser beam and the other of the supporting surface and the housing wall is absorbent for the laser beam.” Claims 2-15 depend from independent Claim 1.

Claim 20 is in independent form and recites a “rechargeable battery” comprising, in combination with other elements, a “supporting surface” that is “coupled to the housing wall at the interface ... wherein one of the supporting surface and the housing wall is at least partially transparent for a laser beam used in a transmission laser welding operation and the other of the supporting surface and the housing wall is absorbent for the laser beam.” Claims 21-24 depend from independent Claim 20.

Applicants respectfully submit that none of the references, alone or in any proper combination, disclose, teach, or suggest transmission laser welding a housing of a rechargeable battery as recited in independent Claims 1 and 20.

On page 3 of the Office Action, the Examiner admits as such in regards to Ovshinsky and Schafer:

Ovshinsky et al. in view of Schafer do not disclose a battery wherein one of the support surface and the housing wall is at least partially transparent for a laser beam and the other is absorbent for the laser beam.

Walsh also does not disclose, teach, or suggest transmission laser welding a housing of a rechargeable battery as recited in independent Claims 1 and 20. Instead, Walsh discloses a “collapsible container 10 for use in transporting and storing heavy agricultural and other food items.” See Walsh at paragraph [0033]. The “collapsible container 10” of Walsh is not a housing for a rechargeable battery. Therefore, Walsh does not disclose, teach, or suggest transmission laser welding a housing of a rechargeable battery.

Applicants also submit that there is no teaching, suggestion, or motivation to combine the cited references. One of ordinary skill in the art would not combine the teachings of Walsh with Ovshinsky and Schafer. In fact, Walsh represents non-analogous art, and cannot be used to form a prima facie case of obviousness. See MPEP § 2141.01(a) I. Furthermore, Walsh does not contribute any suggestion or motivation for one of ordinary skill in the art to solve the technical problem underlying the present invention (e.g., the specific problems associated with sealing batteries). As such, one of ordinary skill in the art would not look to Walsh in order to solve the technical problem underlying the present invention.

Furthermore, one of ordinary skill in the art would not combine the teachings of applications from such disparate technology areas as a “battery” (i.e., Ovshinsky and Schafer) and a “collapsible container” (i.e., Walsh). The only mention of the word “battery” in Walsh is

in line four of paragraph [0037]: “a battery of 2-4, often 6-9 or more, hinges.” The word “battery” in Walsh is used to mean a “group” or “plurality” (of hinges).

The requirements of batteries are obviously very different to the requirements of collapsible containers. For example, batteries require a high degree of sealing in order to avoid leaking electrolyte, which often has a very low viscosity. For this reason, the welding joints of the battery are important and must be leak-tight. Even the smallest pores within the welding joint would provide a leakage path for the electrolyte, increasing the risk of an explosion. In addition, the welding joint has to withstand the mechanical loads which are applied to the poles of the battery during use of the battery. Therefore, one of ordinary skill in the art has no reason or motivation to consider the “collapsible container” of Walsh for improving a battery, because Walsh does not address the specific problems associated with sealing batteries.

Furthermore, one of ordinary skill in the art, upon reading the full teachings of Schafer and Walsh, would not be motivated to combine Schafer and Walsh. Schafer discloses that the “casing 3 and the cover 2 are of thermoplastics material.” See Schafer at page 1, lines 49-50. Schafer does not disclose, teach, or suggest that the “casing 3” and the “cover 2” are made of different thermoplastics materials, as is required in transmission laser welding. To modify Schafer so that the “casing 3” and the “cover 2” of Schafer are made from different thermoplastic materials would be to unnecessarily add cost to the assembly process. For example, costs would be increased because more than one type of thermoplastics material would now have to be kept on hand in order to weld the “casing 3” and the “cover 2” of Schafer. One of ordinary skill in the art would not be motivated to increase costs.

Schafer also discloses that the “two welding necks 6 & 7 come into mutual contact in the welding plane when the cover 2 is laid on the casing 3, so that welding of the cell cover 2 to the cell casing 3 and to the plastics neck ... can take place simultaneously by welding, for example “mirror” welding” (underlining added for emphasis). See Schafer at page 1, lines 75-81. One of ordinary skill in the art would not be motivated to use a transmission laser welding process in the assembly process of Schafer because the welding of the “cell cover 2” to the “cell casing 3” and

of the “cell cover 2” to the “welding neck 6” of Schafer could then no longer be done simultaneously. Using a transmission laser welding process, the welding of the “cell cover 2” to the “cell casing 3” and to the “welding neck 6” would have to be done in separate steps, thus increasing the time required to complete the assembly process. One of ordinary skill in the art would not be motivated to increase the time required to complete the assembly process.

Additionally, the motivation to combine the prior art must flow from some teaching in the art that suggests the desirability or incentive to make the combination needed to arrive at the claimed invention. See, e.g., Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573 (Fed. Cir. 1996) and In re Napier, 55 F.3d 610, 613 (Fed Cir. 1995). The Federal Circuit has repeatedly stated that the requisite motivation to combine must come from the prior art, and not the applicant’s specification. See, e.g., In re Dow Chem. Co. v. American Cyanamid Co., 837 F.2d 469, 473 (Fed. Cir. 1988) and Grain Processing Corp. v. American Maize-Prods. Co., 840 F.2d 902, 907 (Fed. Cir. 1988). Here, it appears that the Examiner is improperly using hindsight reasoning to combine Walsh with Schafer.

Applicants further submit that the rejection of Claims 1-15 and 20-24 is improper because Ovshinsky, Schafer, and/or Walsh fail to disclose at least one element of each of the rejected claims. In particular, Ovshinsky, Schafer, and/or Walsh fail to disclose a “sealing element in contact with the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 1 or a “sealing element provided in the at least one aperture of the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 20.

On page 3 of the Office Action, the Examiner specifically acknowledged that Ovshinsky does “not disclose a plastic sealing element ...” Therefore, Ovshinsky can not possibly disclose a “sealing element in contact with the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 1 or a “sealing element provided in the at least one aperture of the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 20.

Walsh, as non-analogous art, also does not disclose a “sealing element in contact with the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 1 or a “sealing element provided in the at least one aperture of the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 20.

Schafer also does not disclose a “sealing element in contact with the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 1 or a “sealing element provided in the at least one aperture of the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 20. In contrast, Schafer discloses an “annular groove 17 formed between the main part of the plastics portion 5 and the welding neck 6.” See Schafer at page 1, lines 70-72 and FIG. 1. The “annular groove 17” of Schafer creates an open space between the “plastics portion 5” and the “cell cover 2.”

According to, for example, paragraph [0014] of the present application, the present invention has the advantage of not creating such a space:

The welding of the supporting surface of the plastic sealing element to the housing wall by means of a weld bead on the contact surface between the supporting surface and the housing wall instead of the weld bead, which is produced in conventional hot-tool welding, to the outer edge furthermore has the advantage that no dead space is required and the plastic sealing element can be welded to the housing wall only by means of the transmission laser welding method, for manufacturing reasons.

Therefore, the “rechargeable battery” recited in independent Claims 1 and 20 would not have been obvious in view of Ovshinsky, alone or in any proper combination with Schafer and/or Walsh under 35 U.S.C. § 103(a). Ovshinsky, alone or in any proper combination with Schafer and/or Walsh does not disclose, teach, or suggest a “rechargeable battery” comprising, in combination with other elements, a “sealing element in contact with the housing wall such that there is no open space between the sealing element and the housing wall” as recited in

independent Claim 1 or a “sealing element provided in the at least one aperture of the housing wall such that there is no open space between the sealing element and the housing wall” as recited in independent Claim 20.

To transform the “optimized cell pack for large sealed nickel-metal hydride batteries” of Ovshinsky, the “accumulator terminal assemblies” of Schafer, and the “collapsible container with closed multi-paneled sidewalls” of Walsh into a “rechargeable battery” (as recited in Claims 1 and 20) would require still further modification, and such modification is taught only by the Applicants’ own disclosure. Of course, any reliance on the Applicants’ own disclosure to make the combination of Ovshinsky, Schafer, and/or Walsh would constitute hindsight reasoning, which is improper.

The “rechargeable battery” recited in independent Claims 1 and 20, considered as a whole, would not have been obvious in view of Ovshinsky, Schafer, and/or Walsh. Therefore, independent Claims 1 and 20 are patentable over Ovshinsky in view of Schafer and/or Walsh. Dependent Claims 2-15, which depend from independent Claim 1, and Claims 21-24, which depend from independent Claim 20, are also patentable. See 35 U.S.C. § 112 ¶ 4.

Claims 14-15 are further patentable over Ovshinsky, Schafer, and/or Walsh in addition to the reasons stated above. Claim 14 depends from Claim 1 and recites in part “wherein the plastic sealing element comprises grooves for holding the housing wall.” Claim 15 depends from Claim 14 and recites in part “wherein the plastic sealing element is clamped to the housing wall in a liquid-tight manner using the grooves in the area of an aperture through the housing wall.”

Ovshinsky, Schafer, and/or Walsh do not disclose, teach or suggest “grooves for holding the housing wall” as recited in Claim 14 or that the “sealing element is clamped to the housing wall in a liquid-tight manner using the grooves” as recited in Claim 15.

On page 3 of the Office Action, the Examiner specifically acknowledged that Ovshinsky does “not disclose a plastic sealing element ...” Therefore, Ovshinsky can not possibly disclose

a “sealing element” having “grooves for holding the housing wall” as recited in Claim 14 or that the “sealing element is clamped to the housing wall in a liquid-tight manner using the grooves” as recited in Claim 15.

Walsh, as non-analogous art, also does not disclose a “sealing element” having “grooves for holding the housing wall” as recited in Claim 14 or that the “sealing element is clamped to the housing wall in a liquid-tight manner using the grooves” as recited in Claim 15.

Schafer also does not disclose a “sealing element” having “grooves for holding the housing wall” as recited in Claim 14 or that the “sealing element is clamped to the housing wall in a liquid-tight manner using the grooves” as recited in Claim 15. In contrast, Schafer discloses a “welding neck 6 on the plastics portion 5” that is welded to a “welding neck 7” of the “cover 2.” See Schafer at page 1, lines 74-80 and FIG. 1. The “welding necks 6 & 7” of Schafer are not “grooves” as recited in Claims 14-15.

Schafer also discloses a “terminal post 1” having “ribs 4” that “engage complementary grooves in portion 5.” See Schafer at page 1, lines 51-53 and FIG. 1. However, these “grooves” of Schafer are not for “holding the housing wall” as recited in Claim 14 or for clamping “the housing wall in a liquid-tight manner” as recited in Claim 15. In contrast, the “grooves” of Schafer engage the “ribs 4” to “provide both firm, positive engagement with the plastics portion 5 on the terminal post 1.” See Schafer at page 1, lines 54-56 and FIG. 1. In other words, the “grooves” of Schafer only interact with the “terminal post 1” and not the “housing wall” as recited in Claims 14-15.

Therefore, Claims 14-15 are patentable over Ovshinsky in view of Schafer and/or Walsh.

Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 1-15 and 20-24 under 35 U.S.C. § 103(a).

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It is submitted that each outstanding objection and rejection to the Application has been overcome, and that the Application is in a condition for allowance. Applicants request consideration and allowance of all pending claims.

It should also be noted that although the Applicants have only addressed certain claims or claimed features herein, other claims, features, or combinations of features may also be patentable for additional reasons. Further, the failure to address any statement by the Examiner should not be interpreted as acquiescence or agreement with such statement. Applicants expressly reserve the right to rebut any statement presented by the Examiner and to set forth additional and/or alternative reasons for patentability during prosecution of the present Application or in any other future proceeding.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. § 1.136 and authorize payment of any such extension fees to Deposit Account No. 19-0741.

Please direct all correspondence to the undersigned attorney or agent at the address indicated below.

Respectfully submitted,

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